Claims

What is claimed is:

1. A system for streaming media comprising:

a media switch configured to receive reservation data for a request for media and to receive a reservation identification, to process the reservation identification and the reservation data to determine if the reservation identification is valid, and, if valid, to stream at least partially the media for the request;

a routing processor configured to receive the reservation data, to determine if the media switch can stream media for the request, and to transmit the reservation data to the media switch if the media switch is able, at least initially, to stream media for the request; and

a management system configured to receive the request for media, to build a reservation having the reservation data for the request, and to transmit the reservation data to the routing processor.

2. The system of claim 1 wherein the request is generated from a viewer to the management system and wherein:

the management system further is configured to transmit the reservation, including the reservation identification, to the viewer; and

the media switch is configured to receive the reservation identification from the viewer for validation and, upon validation, to stream the media for the request to the viewer.

3. The system of claim 2 wherein the viewer comprises a browser.

4. The system of claim 2 wherein the viewer comprises a set top box.

5. The system of claim 2 wherein the viewer comprises a media player configured to play the media streamed from the media switch.

6. The system of claim 1 further comprising a reservation system configured to receive the request for media, to transmit the request to the management system, and to receive the reservation from the management system in response thereto.

7. The system of claim 6 wherein the reservation system comprises a web reservation server.

8. The system of claim 6 wherein the reservation system comprises a set top reservation server.

9. The system of claim 1 further comprising a service processor configured to receive the media and to distribute the media to the media switch.

10. The system of claim 1 wherein the service processor further is configured to receive the media and at least one media associated media rule and to distribute the media to the media switch according to the media rule.

11. The system of claim 1 further comprising a packet network through which the media switch, the routing processor, and the management system communicate with each other.

12. The system of claim 1 further comprising a packet network through which the request for media is received by the management system and the reservation identification is received by the media switch.

13. The system of claim 1 further comprising a packet network through which the reservation identification is received by the media switch.

14. The system of claim 1 wherein the management system further is configured to transmit the reservation identification to a media requestor, and the media requestor further is configured to transmit the reservation identification to the media switch for validation.

15. The system of claim 14 wherein the media requestor is a viewer.

16. The system of claim 1 wherein the media switch, the routing processor, and the management system identify the media for the request using the reservation identification.

17. The system of claim 1 wherein:

the media switch is configured to transmit at least one information block to the management system identifying the streamed media; and

the management system is configured to use the information block to create a detail record.

18. The system of claim 1 wherein the media switch is configured to transmit a plurality of information blocks to the management system identifying the media streaming, each information block identifying the reservation identification for the media streaming.

19. The system of claim 1 wherein the management system is configured to receive a plurality of information blocks identifying media streaming, each information block identifying the reservation identification for the media streaming, and to use the reservation identification in each information block to create a detail record that represents collated data from each information block.

20. The system of claim 1 further comprising a second media switch configured to stream the media for the request if the media switch fails.

21. The system of claim 20 wherein the second media switch identifies the media for the request using the reservation identification.

22. The system of claim 20 wherein the second media switch is configured to transmit a plurality of information blocks to the management system identifying the media streaming, each information block identifying the reservation identification for the media streaming.

23. The system of claim 1 wherein the media comprises a media clip.

24. The system of claim 1 wherein the media comprises a plurality of media clips.

25. The system of claim 1 wherein the media comprises at least a portion of a media clip.

26. The system of claim 1 wherein the media comprises a presentation.

27. The system of claim 1 wherein the media comprises at least a portion of a presentation.

28. The system of claim 1 wherein the reservation identification comprises a reservation number.

29. The system of claim 1 wherein the media switch address comprises an internet protocol address.

30. The system of claim 1 wherein the routing processor identification comprises at least one member of a group comprising a host name and an internet protocol address.

31. The system of claim 1 wherein the media switch is configured to communicate signaling with a viewer in-band.

32. The system of claim 1 wherein the media switch is configured to communicate signaling with a viewer out-of-band.

33. The system of claim 1 wherein the media switch is configured to communicate signaling with a viewer in-band and out-of-band.

34. The system of claim 1 wherein the media switch records states for a reservation state model, the states comprising at least one member of a group comprising a setup for a session, a session tear down, and a viewing event, the state model identifying the reservation identification.

35. The system of claim 34 wherein the session comprises at least one member of a group comprising an internet protocol session and a broadband connection.

36. The system of claim 1 wherein the routing processor records states for a reservation state model, the states comprising at least one member of a group

comprising a session initiation, a session termination, and an identification of the media switch streaming the media, the state model identifying the reservation identification.

37. The system of claim 36 wherein the session comprises at least one member of a group comprising an internet protocol session and a broadband connection.

38. The system of claim 1 wherein the management system further is configured to collect statistical information.

39. The system of claim 38 further comprising a reservation server configured to gather the statistical information and wherein the management system is configured to instruct the reservation server to gather the statistical information, to receive the statistical information via the reservation server.

40. The system of claim, 38 wherein the management system further is configured to dynamically generate an identification of media to be generated with the requested media based upon the statistical information.

41. The system of claim 1 wherein the routing processor uses a domain name system protocol to communicate with a viewer.

42. The system of claim 1 wherein the media switch comprises a stream routing processor configured to process signaling received from the routing processor.

43. The system of claim 1 wherein the media switch comprises a stream caster configured to stream the media.

44. The system of claim 1 wherein the media switch comprises a stream caster configured process in-band signaling.

45. A system for streaming media to a viewer for a request for media comprising:

a media switch configured to receive from the viewer at a media switch address a reservation identification and a presentation identification, to receive reservation data having a valid reservation identification, to validate the reservation identification using the valid reservation identification, and, if validated, to stream to the viewer at least some media for a presentation identified by the presentation identification;

a routing processor configured to receive for a routing processor identification the presentation identification and the reservation identification, to receive the reservation data, to use the presentation identification to determine if the media switch is configured to stream media for the presentation, and, if so configured, to transmit the reservation data to the media switch and to transmit the media switch address to the viewer; and

a management system configured to receive the request for media, to build a reservation having the reservation identification, the routing processor identification, and the presentation identification, to transmit the reservation to the viewer, and to transmit the reservation data to the routing processor.

46. The system of claim 45 wherein the presentation comprises at least one media rule.

47. The system of claim 46 wherein the media rule comprises at least one member of a group comprising an age restriction, a geographic restriction, and a time restriction.

48. The system of claim 45 wherein the presentation comprises a plurality of media names each identifying a media clip.

49. The system of claim 45 wherein the presentation comprises a play list comprising at least one media name reference.

50. The system of claim 49 wherein the media name reference comprises a universal resource locator.

51. The system of claim 50 wherein the reservation identification is appended with the universal resource locator.

52. The system of claim 49 wherein the play list comprises at least one member of a group comprising a banner advertisement, a media clip advertisement, a movie media clip, a cable series media clip, a television series media clip, and a sporting event media clip.

53. The system of claim 45 wherein the presentation comprises at least one network distribution rule.

54. The system of claim 53 wherein the network distribution rule comprises at least one member of a group comprising a capacity rule, a load rule, a bandwidth rule, a resource rule, and a session rule.

55. The system of claim 45 wherein the management system further is configured to reserve a resource for the reservation.

56. The system of claim 55 wherein the resource comprises at least one member of a group comprising a switch, a processor, media, and bandwidth.

57. The system of claim 45 wherein the management system further is configured to collect reservation state model data.

58. The system of claim 57 wherein the reservation state model data comprises at least one member of a group comprising a stream state change, a viewing state change, a viewing event, and a device mode change.

59. The system of claim 45 wherein the management system further is configured to receive an NRP log, a stream information block, and a signaling log, each identifying the reservation identification, and to create a detail record by using the reservation identification to collate data from at least one of the NRP log, the stream information block, and the signaling log.

60. A reservation state model for streaming media to a viewer for a request for the media, the request having a reservation, the reservation state model using at least one processor and comprising:

an identification of a routing processor selected to select a media switch;

an identification of the media switch selected to stream the media; and

an identification of at least one state change for at least one state occurring for streaming the media to the viewer comprising at least one member of a group comprising a session initiation state and a session termination state, each comprising a reservation identification for the reservation.

61. The system of claim 60 further comprising a viewing event state change.

62. A reservation state model for streaming media to a viewer for a request for the media, the request having a reservation, the reservation state model using at least one processor and comprising:

a media switch state model comprising at least one state change for at least one state occurring for streaming the media to the viewer comprising at least one member of a group comprising a session initiation state and a session termination state, each comprising a reservation identification for the reservation;

a routing processor state model comprising an identification of a media switch selected to stream the media and the reservation identification; and

a management system state model comprising an identification of a routing processor selected to select the media switch and the reservation identification.

63. The system of claim 62 further comprising a viewing event state change.

64. The system of claim 62 wherein the routing processor state model further comprise the session initiation state and the session termination state.

65. The system of claim 62 wherein the session comprises at least one member of a group comprising an internet protocol session and a broadband connection.

66. A system for streaming media to a viewer for a request for media comprising:

a management system configured to receive a request for media, to identify a presentation having the requested media, to build a reservation for the request having a presentation identification, a processor identification that the viewer can call, and a reservation identification, to transmit the reservation to the viewer, and to transmit reservation data for the request having the reservation identification and the presentation identification;

a routing processor configured to receive the reservation data from the management system, to receive for the processor identification the reservation from the viewer, to process the reservation data to determine if the presentation is configured to be streamed, to validate the reservation identification received from the viewer with the reservation data, and, if the presentation is configured to be streamed and if the reservation identification is validated, to transmit an address to the viewer and to transmit the reservation data; and

a media switch configured to receive the reservation data from the routing processor, to receive from the viewer at the address the reservation identification and the presentation identification, to process the reservation identification with the reservation data to validate the reservation identification, and, if valid, to stream at least partially media for the presentation to the viewer.

67. A system for streaming media from a communication device to a viewer for a request for media comprising:

a routing processor configured to receive at a routing processor identification a reservation identification for the viewer, to receive reservation data comprising a valid reservation identification and a media identification for the requested media, to use the media identification to determine if the communication device is configured to stream the media having the media identification, and, if so configured, to transmit the reservation data to the communication device; and

a management system configured to receive the request for media, to determine the routing processor that can determine if the communication device is configured to stream the media, to build a reservation comprising the reservation identification, the routing processor identification, and the media identification, to transmit the reservation to the viewer, and to transmit the reservation data to the routing processor.

68. A system for streaming media to a viewer for a request for media comprising:

a media switch configured to receive from the viewer at a media switch address a reservation identification and a media identification, to receive reservation data comprising a valid reservation identification, to validate the reservation identification using the valid reservation identification, and, if validated, to stream to the viewer at least some of the media identified by the media identification; and

a routing processor configured to receive a reservation identification for the viewer, to receive reservation data comprising a valid reservation identification and a media identification for the requested media, to use the media identification to determine if the media switch is configured to stream the media having the media identification, and, if so configured, to transmit the reservation data to the media switch and to transmit the media switch address to the viewer

69. A system for streaming media to a viewer for a request for media comprising:

a media switch configured to receive from the viewer a reservation identification and a media identification, to stream to the viewer at least some of the media identified by the media identification if the reservation identification is validated, and to transmit at least one streaming information block identifying at least one major state, wherein the streaming information block comprises the reservation identification; and

a management system configured to receive the request for media, to generate the reservation identification used by the media switch, to receive the signaling block, and to processes the signaling block using the reservation identification to create a detail record.

70. A system for distributing media comprising:

a service processor configured to receive media and at least one media rule indicating how the media is to be distributed and to distribute the media according to the media rule; and

a media switch configured to receive the media distributed by the service processor according to the media rule and to stream the media when a valid reservation identification is received.

71. The system of claim 70 wherein:

the service processor further is configured to receive a second media rule for the media; and

media switch further is configured to stream the media according to the second media rule.

72. The system of claim 71 wherein the second media rule comprises at least one member of a group comprising an age restriction, a time restriction, and a geographic restriction.

73. A system for processing a media request comprising:

a service processor configured to receive media, at least one media rule indicating how the media is to be distributed, and at least one order rule indicating settlement for streamed media, to distribute the media according to the media rule, and to transmit a media identification for the media and the order rule; and

a management system configured to receive the media identification and the order rule, to receive the media request, to build and transmit a reservation having a reservation identification and the media identification, to receive at least one information block identifying the reservation identification and streaming for at least some of the media, and to process the information block with the reservation identification and according to the order rule to generate a settlement record.

74. The system of claim 73 wherein the order rule comprises at least one member of a group comprising a credit rule to credit an entity and a debit rule to debit the entity.

75. The system of claim 74 wherein the entity comprises an owner of the requested media.

76. The system of claim 74 wherein the entity comprises an owner of advertisement media streamed in conjunction with the requested media.

77. A method for streaming media comprising:

receiving a request for media and building in response thereto a reservation having a reservation identification for the request;

receiving at a routing processor identification reservation data comprising a valid reservation identification and a media identification and determining if a media switch is configured to stream media for the request;

transmitting the reservation data to the media switch if the media switch is configured, at least initially, to stream media for the request;

receiving a reservation identification at the media switch;

processing the reservation identification and the reservation data to determine if the reservation identification is valid; and

streaming the media for the request if the reservation identification is valid.

78. The method of claim 77 wherein the request is generated from a viewer, the method further comprising:

transmitting the reservation, including the reservation identification, to the viewer; and

receiving at the media switch the reservation identification from the viewer for validation and, upon validation, streaming the media for the request to the viewer.

79. The method of claim 78 wherein the viewer comprises a browser.

80. The method of claim 78 wherein the viewer comprises a set top box.

81. The method of claim 78 wherein the viewer comprises a media player configured to play the media streamed from the media switch.

82. The method of claim 77 further comprising:

receiving the request for media at a reservation server;

transmitting the request to a management system to build the reservation; and

receiving the reservation from the management system in response thereto.

83. The method of claim 82 wherein the reservation system comprises a web reservation server.

84. The method of claim 82 wherein the reservation system comprises a set top reservation server.

85. The method of claim 77 further comprising receiving the media at a service processor and distributing the media to the media switch.

86. The method of claim 77 further comprising receiving the media at a service processor and at least one media associated media rule and distributing the media to the media switch according to the media rule.

87. The method of claim 77 further comprising transmitting signaling through a packet network.

88. The method of claim 77 further comprising receiving the request for media through a packet network.

89. The method of claim 77 further comprising receiving the reservation identification through a packet network a packet network.

90. The method of claim 77 further comprising transmitting the reservation identification to a media requestor, and transmitting the reservation identification from the media requestor to the media switch for validation.

91. The method of claim 90 wherein the media requestor is a viewer.

92. The method of claim 77 further comprising identifying the media for the request using the reservation identification.

93. The method of claim 77 further comprising:

transmitting from the media switch at least one information block identifying the streamed media; and

using the information block to create a detail record.

94. The method of claim 77 further comprising transmitting from the media switch a plurality of information blocks identifying the media streaming, each information block identifying the reservation identification for the media streaming.

95. The method of claim 77 further comprising receiving a plurality of information blocks identifying media streaming, each information block identifying the reservation identification for the media streaming, and using the reservation identification in each information block to create a detail record that represents collated data from each information block.

96. The method of claim 77 further comprising streaming media from a second media switch if the media switch fails.

97. The method of claim 96 wherein the second media switch identifies the media for the request using the reservation identification.

98. The method of claim 96 further comprising transmitting from the second media switch a plurality of information blocks identifying the media streaming, each information block identifying the reservation identification for the media streaming.

99. The method of claim 77 wherein the media comprises a media clip.

100. The method of claim 77 wherein the media comprises a plurality of media clips.

101. The method of claim 77 wherein the media comprises at least a portion of a media clip.

102. The method of claim 77 wherein the media comprises a presentation.

103. The method of claim 77 wherein the media comprises at least a portion of a presentation.

104. The method of claim 77 wherein the reservation identification comprises a reservation number.

105. The method of claim 77 further comprising communicating signaling between the media switch and a viewer in-band.

106. The method of claim 77 further comprising communicating signaling between the media switch and a viewer out-of-band.

107. The method of claim 77 further comprising communicating signaling between the media switch and a viewer in-band and out-of-band.

108. The method of claim 77 further comprising recording by the media switch states for a reservation state model, the states comprising at least one member of a group comprising a setup for a session, a session tear down, and a viewing event, the state model identifying the reservation identification.

109. The method of claim 108 wherein the session comprises at least one member of a group comprising an internet protocol session and a broadband connection.

110. The method of claim 77 further comprising recording by the routing processor states for a reservation state model, the states comprising at least one member of a group comprising a session initiation, a session termination, and an identification of the media switch streaming the media, the state model identifying the reservation identification.

111. The method of claim 110 wherein the session comprises at least one member of a group comprising an internet protocol session and a broadband connection.

112. The method of claim 77 further comprising collecting statistical information.

113. The method of claim 112 further comprising gathering the statistical information at a reservation server.

114. The method of claim 112 further comprising dynamically generating an identification of media to be generated with the requested media based upon the statistical information.

115. The method of claim 77 wherein the routing processor uses a domain name system protocol to communicate with the viewer.

116. The method of claim 77 further comprising streaming media from the media switch using a stream caster.

117. The method of claim 116 wherein the stream caster is configured to process in-band signaling.

118. A method for streaming media to a viewer for a request for media comprising:

receiving the request and building a reservation having a reservation identification, a routing processor identification, and a presentation identification;

transmitting the reservation to the viewer and transmitting reservation data to a routing processor, the reservation data comprising a valid reservation identification;

receiving at the routing processor the reservation data;

receiving from the viewer a presentation identification and a reservation identification at a routing processor identification for thr routing processor;

using the presentation identification to determine if a media switch is configured to stream media for the presentation, and, if so configured, transmitting the reservation data to the media switch and transmitting a media switch address to the viewer;

receiving from the viewer at the media switch address the reservation identification and the presentation identification;

validating the reservation identification using the valid reservation identification; and

if validated, streaming to the viewer at least some media for the presentation identified by the presentation identification.

119. The method of claim 118 wherein the presentation comprises at least one media rule.

120. The method of claim 119 wherein the media rule comprises at least one member of a group comprising an age restriction, a geographic restriction, and a time restriction.

121. The method of claim 118 wherein the presentation comprises a plurality of media names each identifying a media clip.

122. The method of claim 118 wherein the presentation comprises a play list comprising at least one media name reference.

123. The method of claim 122 wherein the media name reference comprises a universal resource locator.

124. The method of claim 123 wherein the reservation identification is appended with the universal resource locator.

125. The method of claim 122 wherein the play list comprises at least one member of a group comprising a banner advertisement, a media clip advertisement, a movie media clip, a cable series media clip, a television series media clip, and a sporting event media clip.

126. The method of claim 118 wherein the presentation comprises at least one network distribution rule.

127. The method of claim 126 wherein the network distribution rule comprises at least one member of a group comprising a capacity rule, a load rule, a bandwidth rule, a resource rule, and a session rule.

128. The method of claim 118 further comprising reserving a resource for the reservation.

129. The method of claim 128 wherein the resource comprises at least one member of a group comprising a switch, a processor, media, and bandwidth.

130. The method of claim 118 further comprising collecting reservation state model data.

131. The method of claim 130 wherein the reservation state model data comprises at least one member of a group comprising a stream state change, a viewing state change, a viewing event, and a device mode change.

132. The method of claim 118 further comprising receiving an NRP log, a stream information block, and a signaling log, each identifying the reservation identification, and creating a detail record by using the reservation identification to collate data from at least one of the NRP log, the stream information block, and the signaling log.

133. The method of claim 118 wherein the media switch address comprises an internet protocol address.

134. The method of claim 118 wherein the routing processor identification comprises a host name.

135. The method of claim 118 wherein the routing processor identification comprises an internet protocol address.

136. A method for streaming media for a viewer comprising:

receiving a request for media and building in response thereto a reservation having a reservation identification and a media identification;

transmitting reservation data comprising a valid reservation identification and the media identification to a routing processor and transmitting the reservation formatted for reception by the viewer;

receiving the reservation data at the routing processor and determining if a media switch is configured to stream media identified by the media identification;

transmitting the reservation data to the media switch if the media switch is configured, at least initially, to stream media for the request;

receiving a reservation identification and receiving from the routing processor the reservation data;

processing the reservation identification and the reservation data to determine if the reservation identification is valid; and

streaming at least partially the media identified by the media identification if the reservation identification is valid.

137. A method for streaming media for a viewer comprising:

processing a request for media and building in response thereto a reservation having a reservation identification and a media play list comprising a plurality of media names;

transmitting reservation data comprising a valid reservation identification and the media play list to a routing processor and transmitting the reservation formatted for reception by the viewer;

for each media name on the play list, determining if a media switch is configured to stream media identified by the media name;

for each media name on the play list, transmitting the reservation data to the media switch if the media switch is configured, at least initially, to stream media for the media name;

processing the reservation identification and the reservation data at the media switch to determine if the reservation identification is valid; and

streaming at least partially the media identified by the media name if the reservation identification is valid.

138. A method for streaming media for a viewer comprising:

processing a request for media and building in response thereto a reservation having a reservation identification and a media play list comprising a plurality of media names;

transmitting reservation data comprising a valid reservation identification and the media play list to a routing processor and transmitting the reservation formatted for reception by the viewer;

determining if a media switch is configured to stream media identified by the media play list;

transmitting the reservation data to the media switch if the media switch is configured, at least initially, to stream media for the media play list;

validating the reservation identification with the reservation data; and

for each media name on the play list, streaming at least partially the media identified by the media name if the reservation identification is valid.

139. The system of claim 138 wherein the viewer transmits a setup message and a teardown message to the media switch for each media name on the play list.

140. A method for distributing media comprising:

receiving media and at least one media rule indicating how the media is to be distributed and distributing the media according to the media rule; and

receiving the media distributed according to the media rule and streaming the media when a valid reservation identification is received.

141. The method of claim 140 wherein:

receiving a second media rule for the media; and

streaming the media from the media switch according to the second media rule.

142. The method of claim 140 wherein the media rule comprises at least one member of a group comprising an age restriction, a time restriction, and a geographic restriction.

143. A method for processing a media request comprising:

receiving media, at least one media rule indicating how the media is to be distributed, and at least one order rule indicating settlement for streamed media;

distributing the media according to the media rule and transmitting a media identification for the media and the order rule;

receiving the media request and building and transmitting a reservation having a reservation identification and the media identification;

receiving at least one information block identifying the reservation identification and streaming for at least some of the media; and

processing the information block with the reservation identification and according to the order rule to generate a settlement record.

144. The method of claim 143 wherein the order rule comprises at least one member of a group comprising a credit rule to credit an entity and a debit rule to debit the entity.

145. The method of claim 143 wherein the entity comprises an owner of the requested media.

146. The method of claim 143 wherein the entity comprises an advertisement media streamed in conjunction with the requested media.

147. A method for streaming media comprising:

receiving a request for media and building in response thereto a reservation having a reservation identification for the request;

receiving reservation data comprising a valid reservation identification and a media identification at a routing processor and determining if a media switch is configured to stream media for the request;

transmitting the reservation data to the media switch if the media switch is configured, at least initially, to stream media for the request;

validating the reservation identification using the valid reservation identification; and

streaming the media for the request simultaneously in a plurality of parallel sessions.